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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/629,234	07/31/2000	Syon Bhattacharya		4012

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EXAMINER

HO, THE T

ART UNIT PAPER NUMBER

2126

DATE MAILED: 10/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/629,234

Applicant(s)

BHATTACHARYA ET AL.

Examiner

The Thanh Ho

Art Unit

2126

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06/28/2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 and 30-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 and 30-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. This action is in response to the amendment filed 6/28/2004.
2. Claims 1-26 and 30-35 have been examined and are pending in the application.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 4, 13, 15, 18 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanigawa U.S Patent No. 6,618,368 in view of Lodrige U.S Patent No. 6,691,175.

As to claim 15, Tanigawa teaches a method of a streaming data path (stream of audio data, lines 41-53 column 2) of a graph (Fig. 15) having a plurality of modules (modules 1701, 1705, 1604, 1706, 1707 and 1708, Fig. 15), each module being connected to at least one other module (connections of modules in Fig. 15) to form the streaming data path (stream of audio data, lines 41-53 column 2) having at least one input module (module 1701, Fig. 15) located at an input edge (module 1701 retrieves events generated by the user inputs, lines 59-65 column 12; module 1706 receives notification from 1604, Fig. 15) and at least one output module (module 1705 and 1708,

Art Unit: 2126

Fig. 15) located at an output edge (module 1705 and 1708 communicate with controller 204 and output unit 207, Fig. 15), the method comprising sending a notification packet (audio data relay status, line 49 column 12) through the streaming data path to each module (relay status notification process module 1604 retrieves audio data relay status and informs modules 1706, 1707, 1708 of the relay status, lines 48-52 column 12, Fig. 15), detecting when the notification packet is received at each output module (monitoring is performed to see if relay status notifications have been received, line 67 column 14 to line 1 column 15). However, Tanigawa does not explicitly teach adding a module.

Lodrige (lines 21-58 column 1) teaches a system of streaming data communication using software modules. The system can dynamically adding a module whenever needed (...one or more stream modules, such as stream modules 104 and 106, can be pushed on the stream between the stream head 102 and stream driver 108. An application can dynamically add or remove stream modules on the stream stack at run-time..., lines 48-53 column 1). It would have been obvious to apply the teachings of Lodrige to the system of Tanigawa because this allow the system to pass data between the user process and the device as disclosed by Lodrige (lines 21-58 column 1).

As to claim 18, Lodrige further teaches removing a module (an application can dynamically add or remove stream modules on the stream stack at run-time, lines 48-53 column 1).

As to claim 25, it is a computer readable medium claim of claim 15. Therefore, it is rejected for the same reasons as claim 15 above.

Art Unit: 2126

As to claim 1, it is a method claim of claims 15 and 18. Therefore, it is rejected for the same reasons as claims 15 and 18 above.

As to claim 4, it is a method claim of claim 15. Therefore, it is rejected for the same reasons as claim 15 above.

As to claim 13, it is a computer readable medium claim of claim 1. Therefore, it is rejected for the same reasons as claim 1 above.

4. Claims 2-3 and 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanigawa in view of Lodrige, and further in view of Koseki U.S Patent No. 6,732,124.

As to claim 16, Tanigawa as modified does not explicitly teach a graph lock. Koseki teaches a system of updating files wherein a file lock mechanism locks the file while the file is being updated (lines 45-46 column 28). It would have been obvious to apply the teachings of Koseki to the system of Tanigawa as modified because this protects the file from being accessed by other processes while being updated as disclosed by Koseki (lines 45-57 column 28).

As to claim 17, Koseki further teaches executing a multiple wait specifying that it exit if one of the graph lock and an event type object is set (lines 32-64 column 28).

As to claims 2-3, they are method claims of claims 16-17, respectively. Therefore, they are rejected for the same reasons as claims 16-17 above.

5. Claims 5-12, 14, 19-24, 26 and 30-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanigawa in view of Lodrige, and further in view of Krause U.S. Patent No. 5,815,707.

As to claim 19, Tanigawa and Lodrige as modified do not explicitly teach each module has at least one pin. Krause teach a streaming data system (Fig. 3) wherein each streaming module (modules 17, 14 and 30, Fig. 3) has two pins (write and read queues, Fig. 3) that connect the modules together. It would have been obvious to apply the teachings of Krause to the system of Tanigawa and Lodrige because whenever a new module needs to be added into the stream, the pins within the new module would be used to connect the new module with the other modules of the stream; thereby the new module would use the pins to communicate with other modules of the stream.

As to claim 20, it is a method claim of claims 15 and 19. Therefore, it is rejected for the same reasons as claims 15 and 19 above.

As to claim 21, Krause further teaches each module (modules 17, 14 and 30, Fig. 3) has at least one pin (write and read queues of the modules, Fig. 3), at least two modules (17 and 14, Fig. 3) have at least one interface (stream head consists of a set of routines that provide the interface between applications in user space and the rest of the stream in kernel space, lines 65-67 column 1) to support dynamic reconfiguration (intermediate processing element that can be dynamically added to, line 41-42 column 2), one (17, Fig. 3) of the two modules being upstream (module 17 is head of the stream that receives user input, lines 1-2 column 2) of the first module (30, Fig. 3) and the other (14, Fig. 3) of the two modules being downstream (end or tail of the stream, line 10

Art Unit: 2126

column 2) of the first module (30, Fig. 3) comprising locating (module 17 is being upstream of module 30 in Fig. 3) at least one input edge module (module 17 is head of the stream that receives user input, lines 1-2 column 2) being one of the at least two modules that is upstream of the first module (30, Fig. 3); locating (module 14 is being downstream of module 30 in Fig. 3) at least one output edge module (module 14 is end or tail of the stream, line 10 column 2) being the other of the two modules that is downstream of the first module (30, Fig. 3). The concept of adding or removing a module as well as if there is a need for changing to the processing elements within a stream, all of the modules connected together are stopped, make the changes and restarted is clearly discussed within claims 15 and 18 as taught by Tanigawa and APA above. Meanwhile, Krause as discussed in claim 19 teaches pins within a module, wherein the pins are needed to connect one module to another. Therefore one of ordinary skill in the art would conclude that by adding or removing a module, the first thing that is needed to be done is disconnect the pins of an existing module within the stream chain, then reconnect those pins with the pins of a new module (or in the case of removing a module, disconnect the pins of an existing module within the stream chain, remove that module and then reconnect pins of the modules that stay).

As to claim 22, note the discussion of claim 21 above for the case of removing a module within a stream.

As to claim 23, it is a method claim of claims 15 and 21. Therefore, it is rejected for the same reasons as claims 15 and 21 above.

As to claim 24, it is a method claim of claim 16. Therefore, it is rejected for the same reasons as claim 16 above.

As to claim 26, it is a computer readable medium claim of claim 21. Therefore, it is rejected for the same reasons as claim 21 above.

As to claim 33, Krause further teaches each module provides an interface (each component's queue provides an interface between the component and the rest of the stream, lines 40-41 column 2) comprising a command to determine if an input pin of a processing module can accept a media type on a next data sample (one of the ioctl commands is used to alter active instances of a module, lines 62-66 column 9).

Tanigawa further teaches a command to provide notice (notifies appropriate processing modules, lines 63-64 column 12); a command to signal when a reconnection should end (terminates the connection when a communication release notification is received, lines 16-17 column 7).

As to claim 34, Krause further teaches each module provides an interface (each component's queue provides an interface between the component and the rest of the stream, lines 40-41 column 2). APA further teaches a command to temporarily block data flow (command issued that made all of the modules within the stream stopped, lines 19-20 page 2).

As to claim 35, Krause further teaches each module provides an interface (each component's queue provides an interface between the component and the rest of the stream, lines 40-41 column 2) comprising a command to perform a dynamic reconnection (dynamic function replacement, lines 30-31 column 4) between an output

Art Unit: 2126

pin and an input pin (write and read queues, Fig. 3); a command to put a module into a cache (cache miss, line 14 column 4); a command to remove a module (remove intermediate processing elements, lines 32-33 column 1); a command to enumerate modules (examine a particular stream instance, lines 51-52 column 5); a command to get a start time (time stamping, line 23 column 14); a command to push data to a pin (modules can be pushed onto pipes to obtain more functionality, lines 17-18 column 3).

As to claims 5-6, they are method claims of claims 19-20, respectively.

Therefore, they are rejected for the same reasons as claims 19-20 above.

As to claim 7, it is a method claim of claims 15 and 19. Therefore, it is rejected for the same reasons as claims 15 and 19 above.

As to claim 8, Krause further teaches moving each selected module into a filter graph cache (cache miss, line 14 column 4).

As to claims 9-10, they are method claims of claim 21. Therefore, they are rejected for the same reasons as claim 21 above.

As to claims 11-12, they are method claims of claims 23-24, respectively. Therefore, they are rejected for the same reasons as claims 23-24 above.

As to claim 14, it is a computer readable medium claim of claim 9. Therefore, it is rejected for the same reasons as claim 9 above.

As to claims 30-32, they are method claims of claims 33-35, respectively. Therefore, they are rejected for the same reasons as claims 33-35 above.

Response to Arguments

6. Applicant's arguments filed 6/28/2004 have been fully considered but are moot in view of the new ground(s) rejection.

Applicant's arguments presented issues which required the Examiner to further view the previous rejection. The Examiner conducted a further search regarding the issues mentioned in Applicant's response. Therefore, all arguments regarding the cited references of the previous rejection are moot in view of the new grounds of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to The Thanh Ho whose telephone number is (571) 272-3762. A voice mail service is also available for this number. The examiner can normally be reached on Monday – Friday, 8:30 am – 5:00 pm.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Any response to this action should be mailed to:

Commissioner for Patents

P.O Box 1450

Alexandria, VA 22313-1450

Or fax to:

- AFTER-FINAL faxes must be signed and sent to (703) 872 - 9306.
- OFFICIAL faxes must be signed and sent to (703) 872 - 9306.

Art Unit: 2126

- NON OFFICAL faxes should not be signed, please send to (571) 273 – 3762

TTH

September 30, 2004


MENG-T. AN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100
